DOCUMENT RESUME

ED 269 568 CE 043 791

TITLE	Wood Technology--Science. Haywood County's Vocational-Math-Science Curriculum Alignment Project.
INSTITUTION	Haywood County Consolidated Schools, Waynesville, N.C.
SPONS AGENCY	North Carolina State Dept. of Public Instruction, Raleigh. Div. of Vocational Education.
PUB DATE	85
NOTE	63p.; For other guides in this series, see CE 043 781-792.
PUB TYPE	Guides - Classroom Use - Guides (For Teachers) (052)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	*Articulation (Education); Behavioral Objectives; Competency Based Education; Coordination; Course Content; *Finishing; Forestry; *Fused Curriculum; Learning Activities; Lumber Industry; Program Content; Relevance (Education); Science Curriculum; *Science Education; Secondary Education; Secondary School Science; Statewide Planning; *Vocational Education; *Woodworking
IDENTIFIERS	*North Carolina

ABSTRACT

This guide is intended to assist vocational educators teaching a course in wood technology to relate the skills addressed in science courses to a particular vocational education course. The guide consists of a curriculum alignment chart that cross-references vocational performance indicators to science skills/competencies. The science competency indicators presented for each vocational education performance indicator are broken down according to science course and grade level. Selected teacher helps, including suggested true-and-false, multiple-choice, and essay questions for students are also provided for each performance indicator listed in the curriculum alignment chart. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

C. Brumbach

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE 043 791

BEST COPY AVAILABLE

Activities and procedures funded by the Division of Vocational Education are governed by the philosophy of simple fairness to all. Therefore, the policy of the Division is that all operations will be performed without regard to race, sex, color, national origin, or handicap.

The following teachers from Haywood County participated in this project:

Nancie Autrey	Tuscola Senior High School
Edie Burnette	Pisgah Senior High School
Tommy Carswell	Tuscola Senior High School
Ray Chadwick	Tuscola Senior High School
Randy Dills	Waynesville Junior High School
Debra Earley	Pisgah Senior High School
Ralph Green	Pisgah Senior High School
Charles Howard	Tuscola Senior High School
Ray Pressley	Pisgah Senior High School
Barbara Wilson	Canton Junior High School

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS 007 01 Determine your individual (a) attitude (b) aptitudes (c) skills to determine personal feasibility of career choice through deductive reasoning.	007 Use of decision-making process in making occupational choices. SKILL: Demonstrate Explain State List Identify	ELEMENTARY SCIENCE Grades 4-6 (Introduction to Science) 1.01 Suggest ways of finding a solution(s) of a given science problem by using a scientific method 2.01 List several ways scientists' discoveries have improved living conditions for people 3.01 List ways that science is important to our ecomomy 3.02 Explain the importance of science to people 4.01 Name and identify four major branches of science (i.e., biology, geology, astronomy, meterology, chemistry, physic etc.) LIFE SCIENCE Grade 7 (Introduction to Overview) 1.01 State that life science is th study of living things 2.01 Demonstrate and identify the scientific processes involved in a simple experiment such as observing, measuring, predicting, communicating, interpreting data, controlli variables, and formulating hypotheses

VOCATIONAL EDUCATION COURSE Wood Technology SELECTED TEACHER HELPS

007

Occupational Outlook Handbook

California Achievement Profile (CAPS) System
Measures mechanical skills, aptitudes

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
013 01 Develop an understanding of various uses of wood products and their relevance to society through study of types of wood, molecular structures, reproductive capabilities, their impact on our environment.	013 Describe the importance of wood as a natural resource. SKILL: Identify List Describe Classify	ELEMENTARY SCIENCE Grades 4-6 (Living Things) 7.04 Identify examples of natural resources 7.05 Define recycling 7.07 Identify one or more ways in which individual citizens can help protect the environment (Matter and Energy) 2.01 Give characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a variety of materials. 13.02 List several common sources of energy such as petroleum products, wood, and wind 14.01 Describe how energy can be obtained from matter such as the burning of wood and digestion of food BIOLOGY Grades 10-12 (Ecology) 3.04 Identify various cycles within a balanced ecosystem and how they operate 4.01 Describe effects people have had and are having on the environment BIOLOGY/PROCESS SKILLS Grades 10-12 2.01 Classify a group of objects or concepts according to their various properties

BEST COPY AVAILABLE

VOCATIONAL EDUCATION COURSE Wood Technology

013

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. The only natural resource that is capable of renewing itself is our forest.

T 2. Besides their products, forests are important because they help prevent soil erosion.

T 3. One very important by-product of a tree is oxygen.

T 4. The bark of a tree has been called the most important chemical factory in the world.

F 5. There has been a decrease in recent years in the use of by-products of lumber production.

INSTRUCTIONS TO STUDENTS: Fill in the appropriate response in the space(s) provided for each question or statement.

1. Name four early American methods of transportation which depended or wood.

_____ _____

_____ _____

2. Approximately one-third of the earth's land surface is covered with forests.

3. The oldest manufacturing industry is lumber.

4. Five products made from a tree other than building materials are:

Paper Cardboard

Disposable clothing . Newspapers

Mulch

5. The softwood super tree is estimated to mature how fast compared to normal tree growth?

(a) One-tenth of the time (c) One-half of the time

(b) One-third of the time (d) Three-fourths of the time

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
014 01 Describe the evolution of industry in our society and the impact of forest products in that development.	014 Evolution of forest products and tools. SKILL: Identify List Describe	ELEMENTARY SCIENCE Grades 4-6 (Living Things) 3.01 Identify different plant groups (algae, fungi, mosses, ferns, seed plants, etc.) 3.02 List the basic characteristics of plants (Matter and Energy) 2.01 Give characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a variety of materials 19.01 List several sources of heat such as the sun, friction, wood and gas 22.01 List sources of heat for home heating 28.03 Describe how some simple machines are used in everyday life ELEMENTARY SCIENCE/ATTITUDES Grades 4-6 2.02 Display an awareness that science is a process invented by people to solve human problems 3.01 Show, by action and thought, the need for people to conserve, preserve, and make wise use of natural resources PHYSICAL SCIENCE Grades 8-12 (Organic Chemistry) 1.01 List examples of organic compounds 5.01 Describe how fibers can be made through the process of polymerization

BEST COPY AVAILABLE

BEST COPY AVAILABLE

014

INSTRUCTIONS TO STUDENTS: Match the statements in Column A with the listing in Column B; then place your response in the space provided in Column A.

Column A	Column B
E 1. The first machine used by man.	a. Table Saw
B 2. The first tools found by man.	b. Stones
A 3. In 1775 which machine tool was developed by man.	c. Copper
C 4. The first metal used by man to make tools.	d. Weapons
D 5. Early man used forest products as _____, shelter, and food.	e. Lathe

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. It is difficult to trace the use of wood in prehistoric times because wood is a highly perishable material.

F 2. All woodworking machines of today can be traced back to circular saw.

T 3. Gravel pits and peat bogs have produced evidence that the new stone age man used woods in different ways.

T 4. The first hand tool made by man was a knife.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
015 01 Recognize various furniture styles and periods. 02 Recognize the different chair styles and period in which they evolved. 03 Explain furniture periods and when and why they evolved.	015 Identify furniture styles. SKILL: Classify Formulate Explain Demonstrate	ELEMENTARY SCIENCE Grades 4-6 (Matter and Energy) 2.01 Give characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a variety of materials 3.01 Describe properties such as color, shape, weight, and texture of given objects 4.03 Classify a given substance according to its present state of matter ELEMENTARY SCIENCE/MANIPULATIVE SKILLS Grades K-12 3.01 Construct simple equipment, models, and exhibits using materials and supplies appropriate for the student's grade level or course LIFE SCIENCE/ATTITUES Grades 7-12 4.01 Enjoy the challenge of formulating theories to explain observations 5.02 Demonstrate critical thinking and the use of scientific inquiry when given a scientific problem

BEST COPY AVAILABLE

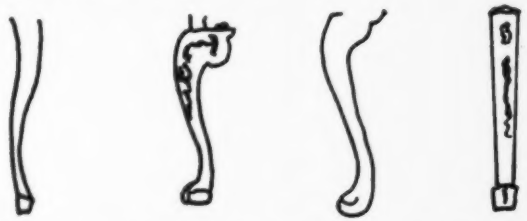
BEST COPY AVAILABLE

VOCATIONAL EDUCATION COURSE Wood Technology

015

INSTRUCTIONS TO STUDENTS: Review the illustration of each furniture style carefully; then identify the style in the space provided below it.

Identify the following leg styles:



1. French Provincial 2. Chippendale 3. Queen Ann 4. Hepplewhite

INSTRUCTIONS TO STUDENTS: Read the statement carefully; then choose the best answer and place in the space provided.

D 1. Early American furniture is characterized by:

(a) Elaborate veneers
(b) Dutch colonial decoration
(c) Fragile legs
(d) Massive vertical lines

D 2. The following are characteristics of well-designed furniture except one. Choose the exception.

(a) Being suited to its intended purpose
(b) Making good use of materials
(c) Exhibiting good craftsmanship
(d) Looking heavy and massive

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. An early French furniture style was named after Queen Anne.

F 2. Hepplewhite is credited with developing the fragile shield back for chairs.

T 3. The period of American design from 1750 to 1775 was known as prerevolutionary.

T 4. Duncan Phyfe was an outstanding English furniture designer.

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS 016 01 Describe determining factor in furniture design (1) intended use (2) use of object (3) material composition (4) cost (5) acceptance by user	016 Describe the basic components of design as related to wood construction. SKILL: Describe Classify Construct State	ELEMENTARY SCIENCE Grades 4-6 (Matter and Energy) 2.01 Give characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a varies of materials 3.01 Describe properties such as color, shape, weight, and texture of a given objects 4.03 Classify a given substance according to its present state of matter ELEMENTARY SCIENCE/MANIPULATIVE SKILLS Grades K-12 3.01 Construct simple equipment, models, and exhibits using materials and supplies appropriate for the student's grade level or course LIFE SCIENCE/PROCESS SKILLS Grades 7-9 11.01 State working definitions of scientific expressions such as gravity, heat, and temperature based upon past learning experiences

BEST COPY AVAILABLE

BEST COPY AVAILABLE

016

INSTRUCTIONS TO STUDENTS: Match the statements in Column A with the definitions in Column B; then place your response in the space provided in Column A.

A		B
C	1. the ability to withstand usage over time	a. working drawing
G	2. the usefulness of a product or ability to serve an intended purpose	b. rhythm
F	3. the relationship of the length to the width of an entire object	c. durability
E	4. outline of operations to be performed	d. bill of materials
A	5. plan describing or giving information to construct an object	e. plan of procedure
D	6. detailed account of material cost	f. proportion
H	7. standard measure for calculating material	g. function
I	8. refers to state of equilibrium in design	h. board measure
J	9. refers to the design's center of interest	i. balance
B	10. obtained by repeating lines, curves, forms, colors, and textures within the design	j. emphasis
K	11. results when all of the parts get along well together in the design	k. harmony

INSTRUCTIONS TO STUDENTS: In the spaces provided list your responses to the information requested.

1. List the four (4) principle lines used in design.

1. Straight
2. Curved
3. S-shaped
4. mass

2. List four (4) things that are involved in design.

1. line
2. shape
3. mass
4. color or tones & textures

INSTRUCTIONS TO STUDENTS: Read carefully each statement; then choose the best answer and place in the space provided.

C 1. The design feature that is obtained by repeating lines, curves, forms, colors, and textures is referred to as:

a. harmony
b. balance
c. rhythm
d. unity

D 2. This feature in design is present when one's eye follows through and among the various parts with ease rather than having to jump from one part to another.

a. harmony
b. unity
c. balance
d. unity

A 3. Refers to the center of interest.

a. emphasis
b. harmony
c. balance
d. unity

B 4. The term used to refer to neighboring colors.

a. analogons
b. harmonious
c. congruent
d. complimentary

D 5. Two colors opposite of each other on the color wheel with one usually the main color.

a. analogons
b. complimentary
c. congruent
d. harmonious

C 6. The result of all parts of the design getting along well together is referred to as:

a. texture
b. balance
c. harmony
d. rhythm

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
017 01 Construct a working drawing utilizing scaling, isometric projection, and orthographic projection.	017 Read a working drawing. SKILL: Identify Sort Demonstrate Predict	ELEMENTARY SCIENCE/PROCESS SKILLS Grades 4-6 1.01 Identify at least three properties common to the group when given a group of objects that are related 2.01 Identify at least two properties of a given group of objects 2.02 Sort a given group of objects according to their properties 3.01 Demonstrate the ability to use the four basic mathematical operations (addition, subtraction, multiplication, and division) 4.01 Use words, drawings, or charts to transmit the information learned from a given science experience 6.01 Make predictions that go beyond the observed data when given in the form of a bar graph 7.01 Describe spatial relationships and their change with time (shapes, direction, spatial arrangements, motion and speed, symmetry, and rate of change) when confronted with situations involving position of objects 11.01 State working definitions based on past experiences for a given list of terms such as heat, cold, car, or light 13.01 Identify variables and perform an experiment to determine the effect of each variable when given appropriate problems

BEST COPY AVAILABLE

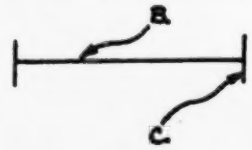
VOCATIONAL EDUCATION COURSE Wood Technology

BEST COPY AVAILABLE

017

INSTRUCTIONS TO STUDENTS: Identify the following lines used on a drawing in the space provided.

A. _____



D. - - - - - - - - - - - - - - -

E. _____ _____

Object line A
Center line E
Dimension lines B

Hidden line D
Extension line C

INSTRUCTIONS TO STUDENTS: Read each statement carefully; then choose the best answer and place your response in the space provided.

C 1. The outline of an object is shown by using (a) center, (b) hidden, (c) object, or (d) dimension lines.

B 2. To show parts of an object that cannot be seen use (a) center, (b) hidden, (c) object, or (d) dimension lines.

A 3. On drawing circles and semi-circles, centers are located by using which of the following: (a) center, (b) hidden, (c) object, or (d) extension lines.

C 4. In order to place dimensions outside an object one must draw (a) center, (b) hidden, (c) extension, or (d) dimension lines.

D 5. The measurements needed to construct an object are placed on (a) center (b) hidden, (c) extension, or (d) dimension lines.

C 6. The top view should be located directly over (a) right hand, (b) left hand, (c) front, or (d) neither of these views.

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. A drawing should contain all construction details necessary for making the object.

T 2. To make a good working drawing requires thinking, working, and time.

T 3. Irregular contours are transferred to the object by making a full size pattern.

T 4. As you prepare a working drawing, you must decide on the method and details of construction, fasteners to be used, type of joints to be used and the exact size of needed parts.

T 5. Most working drawings are drawn to scale.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
019 01 List in sequence, proper steps in a "procedural plan"	019 List the plan of procedures for a product. SKILL: Identify Classify List State Formulate	EARTH SCIENCE/PROCESS SKILLS Grades 7-9 1.01 Identify the similarities and/or differences, using the senses, when given a collection of objects or concepts 2.01 Classify a group of objects or concepts according to their various properties 4.01 Record observed information from science experiences in simple, clear tabular form 6.01 Make predictions based on collected data. 9.01 State logical conclusions when given a collection of data 10.01 Identify variables and use proper controls when given appropriate materials and an experiment 12.01 Formulate one or more hypotheses to explain experimental data 13.01 Design and carry out a scientific investigation using a scientific problem and appropriate materials

BEST COPY AVAILABLE

BEST COPY AVAILABLE

VOCATIONAL EDUCATION COURSE: Wood Technology SELECTED TEACHER HELPS

019

INSTRUCTIONS TO STUDENTS: Read the questions carefully; then place your responses in the spaces provided.

List the steps in a "plan of procedure".

1. Name
2. List of tools
3. Construction procedure
4. Bill of materials
5. Estimated time to complete

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

F 1. S4S means that a board has been surfaced on both surfaces and edges.

T 2. Every effort in the making of a project involves mental and written planning.

T 3. The availability of tools and equipment to be used should be considered when planning a project.

INSTRUCTIONS TO STUDENTS: Review the questions carefully; then place your answers in the spaces provided.

1. Find the board measure of the following:
   a. 7 pieces that are 1" thick, 7" wide, and 11' long 44.8
   b. 25 pieces that are 3" thick, 10" wide, and 3' long 187.5
   c. 3 pieces 2" thick, 8" wide, and 30" long 120.0

INSTRUCTIONS TO STUDENTS: In each of the statements below, fill in the missing word or words in the spaces provided.

1. Two methods of drying woods are kiln drying and air drying.
2. Particle board is sold by the square meter using the metric system.
3. The abbreviation S2S means surface 2 sides.

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS 020 01 Identify the following forest regions in the U.S.: (1) Southern (2) Central Hardwood (3) Western (4) Northern 02 Explain the difference between the hardwoods and softwoods and identify each.	020 Describe the classification of trees. SKILL: Identify Explain State Describe	ELEMENTARY SCIENCE Grades 4-6 (Living Things) 3.01 Identify different plant groups (algae, fungi, mosses, ferns, seed plants) 3.02 List the basic characteristics of plants 7.03 Classify animals and/or plants according to habitats (Matter and Energy) 2.01 Given characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a variety of materials 3.01 Describe properties such as color, shape, weight, and texture of given objects ELEMETNARY SCIENCE/PROCESS SKILLS Grades 4-6 2.02 Sort a given group of objects according to their properties LIFE SCIENCE Grade 7 (PLANT & ANIMAL COMMUNITIES) 4.01 State that limiting factors such as water, light, temperature, and oxygen set limits for living things 6.01 Describe cycles within an ecosystem such as carbon, nitrogen, and water BIOLOGY Grades 10-12 (Multicellular Plants) 2.01 Identify, in typical seed plants, the major structures and their functions 4.01 List ways that plants reproduce 4.02 Describe how plants grow

BEST COPY AVAILABLE

BEST COPY AVAILABLE

VOCATIONAL EDUCATION COURSE Wood Technology

020

INSTRUCTIONS TO STUDENTS: Read each question carefully; then write your responses in the space provided.

1. List four (4) major forest areas found in the United States.

   1. Southern Forest
   2. Central Hardwood
   3. Western Forest
   4. Northern Forest

2. List three (3) hardwoods.

   1. Oak Maple
   2. Walnut Mahogany
   3. Ash

3. List three (3) softwoods.

   1. Pine
   2. Fir
   3. Cedar

4. Parts of North Carolina are in two (2) of the major forest areas. What are they?

   Central Hardwood and Southern Forest

INSTRUCTIONS TO STUDENTS: Read each statement carefully; then choose the best answer and place your response in the space provided.

C 1. Trees which loose their leaves in the winter are called (a) conifers, (b) dogwood, (c) deciduous, (d) neither of these.

A 2. Which one of the following is not a hardwood? (a) fir, (b) oak, (c) poplar, (d) gum.

D 3. A softwood generally recognized by its fragrant scent, widely used in novelty construction is (a) poplar, (b) walnut, (c) oak, (d) red cedar.

B 4. Baseball bats are normally made of (a) oak, (b) ash, (c) hickory, (d) maple.

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
021 01 Identify the parts of a tree and describe how the tree grows.	021 Identify the main parts of a tree. SKILL: Identify Sort Explain List Describe	ELEMENTARY SCIENCE Grades 4-6 (Living Things) 3.01 Identify different plant groups (algae, fungi, mosses, ferns, seed plants, etc.] 3.02 List the basic characteristics of plants (Matter and Energy) 2.01 Give characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a variety of materials ELEMENTARY SCIENCE/PROCESS SKILLS Grades 4-6 2.02 Sort a given group of objects according to their properties LIFE SCIENCE Grade 7 (Plant & Animal Communities) 4.01 State that limiting factors such as water, light, temperature, and oxygen set limits for living things (Adaptation) 4.02 Identify major adaptations of organisms which enable them to survive BIOLOGY Grades 10-12 (Multicellular Plants) 2.01 Identify, in typical seed plants, the major structures and their function 2.02 Describe the role and structure of a seed 3.01 List the various factors which affect conduction in a plant 3.02 Explain the process and importance of photosynthesis

VOCATIONAL EDUCATION COURSE Wood Technology

021

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

F 1. The heartwood is located near the outside of the tree.

F 2. The growth of a tree occurs in the carbium layer.

T 3. Annual rings are caused by Summer and Spring growth.

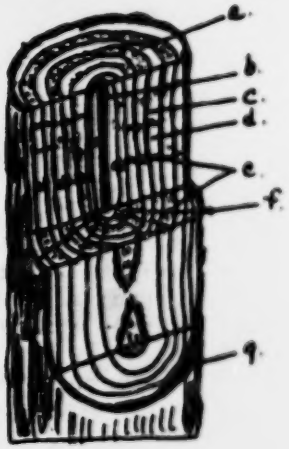
T 4. Medulary rays carry food stuff across annual rings.

T 5. Leaves absorb carbon dioxide from the air and give off oxygen.

T 6. The bark of trees serves the same purpose as the skin of man.

T or F 7. The very center of a tree is sometimes called the heartwood.

INSTRUCTIONS TO STUDENTS: Review the cross-section drawing of a tree. In the spaces provided write the name of the parts identified.



a. Annual ring

b. Pith

c. Summerwood

d. Springwood

e. Rays

f. Outer Bark

g. Inner Bark

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
022 01 Classify wood into two classes (hardwood, softwood). 02 Describe uses for each classification of wood. 03 List the uses of several common hardwoods and softwoods.	022 Describe the properties and characteristics of various types of wood common to woodworking. SKILL: List Describe Identify Classify Explain	ELEMENTARY SCIENCE Grades 4-6 (Living Things) 3.02 List the basic characteristics of plants (Matter and Energy) 2.01 Give characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a variety of materials ELEMENTARY SCIENCE/PROCESS SKILLS Grades 4-6 1.01 Identify at least three properties common to the group when given a roup of objects that are related LIFE SCIENCE Grade 7 (Adaptation) 4.02 Identify major adaptations of organisms which enable them to survive BIOLOGY Grades 10-12 (Multicellular Plants) 2.01 Idnetify, in typical seed plants, the major structures and their functions 2.02 Describe the role and structure of a seed 2.03 Classify leaf and flower samples as monocots or dicots 3.01 List the various factors which affect conduction in a plant 3.02 Explain the process and importance of photosynthesis 4.01 List ways that plants reproduce 4.02 Describe how plants grow

VOCATIONAL EDUCATION COURSE Wood Technology

022

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. Cherry is a wood that is dark brown in color.

T 2. Walnut is a very easy wood to work with using hand tools.

T 3. A strong wood to build your project out of is oak.

T 4. A good material to make a skateboard out of is balsawood.

T 5. Willow is a wood with a relatively low cost factor.

T 6. Pine is used in construction a lot because of its large supply.

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. Maple is the best wood to make a cutting board.

T 2. Hardness means wood is solid or firm.

T 3. Toughness means that wood can withstand sudden shock.

F 4. Woods of low density have the highest nail-holding power.

T 5. The quality of resisting, bending under loads is referred to as stiffness.

T 6. In furniture construction attractive appearance and desirable wood grain are prime requirements.

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

BEST COPY AVAILABLE

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
024 01 Determine moisture content using a cabbrated moisture meter. 02 Explain in terms slab sowing, quarter sowed, heart wood, and sap wood. 03 Grade lumber using the American Lumber Association standards.	024 Describe methods of processing logs into lumber. SKILL: Measure Demonstrate Describe Explain Determine	ELEMENTARY SCIENCE Grades 4-6 (Matter and Energy) 2.01 Give characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a variety of materials 3.01 Describe properties such as color, shape, weight, and texture of given objects ELEMENTARY SCIENCE/PROCESS SKILLS Grades 4-6 1.01 Identify at least three properties common to the group of objects that are related 5.01 Measure within a given degree of accuracy when given appropriate measurement instruments 6.01 Make predictions based on collected data 13.01 Design and carry out a scientific investigation using a scientific problem and appropriate materials PHYSICAL SCIENCE Grades 8-12 (Mechanics) 6.02 Demonstrate how simple machines do work 6.03 Calculate the mechanical advantage when given machine problems

BEST COPY AVAILABLE

VOCATIONAL EDUCATION COURSE Wood Technology

024

INSTRUCTIONS TO STUDENTS: Read the statements carefully. To the left of each statement write True if the statement is correct, or False if the statement is incorrect.

T 1. Before lumber is machines, make sure moisture content is uniform and correct.

F 2. The accuracy of a moisture meter is within a range of + or - 1%.

F 3. Air drying refers to placing wood on rocks in an oven to dry.

F 4. Air drying takes a shorter amount of time to dry compared to kiln drying.

T 5. Seasoning refers to getting the moisture level to the correct point to where the wood can be used without excessive shrinking or swelling.

T 6. Wood too wet shrinks.

T 7. Wood shrinks very little in length along the grain.

T 8. 30 to 300 percent of a tree's weight when cut down is moisture.

T 9. Over amounts of moisture for an extended period may cause a fungus.

T 10. Wood is constantly moving.

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

BEST COPY AVAILABLE

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
025 01 List veneer cutting methods. 02 Explain veneer patterns. 03 Describe the plywood manufacturing process (1) identify glues (2) identify fillers (3) identify outer layers 04 Describe how hardwood is manufactured (1) identify bonding agents (2) Identify glazing material 05 Classify hardboard into three categories (1) HS standard (2) tempered (3) service 06 Describe how particle board is produced. 07 Describe the paper production process. 08 Ientify by-products of wood production processes.	025 Identify products produced from forests (hardboard, particle board, veneer, plywood, paper, etc.). SKILL: Describe List Explain Classify Identify Record	ELEMENTARY SCIENCE Grades 4-6 (Matter and Energy) 2.01 Give characteristics of different kinds of matter such as wood, glass, metal, and cloth after a laboratory exercise dealing with a variety of materials 3.01 Describe properties such as color, shape, weight, texture of a given objects 4.03 Classify a given substance according to its present state of matter 6.01 Distinguish between examples of crystalline and noncrystalline substances 21.01 Record the temperature of three or four different liquids, each being at a different temperature over a period of time, using a thermometer to see if temperature changes have occurred ELEMENTARY SCIENCE/PROCESS SKILLS Grades 4-6 1.01 Identify at least three properties common to the group when given a group of objects that are related PHYSICAL SCIENCE Grades 4-6 (Inorganic Chemistry) 4.01 Identify compounds, mixtures, and elements when given a list including some of all 4.02 List two ways compound differ from mixtures PHYSICAL SCIENCE Grades 8-12 (Organic Chemistry) 5.01 Describe how fibers can be made through the process of polymerization

BEST COPY AVAILABLE

INSTRUCTIONS TO STUDENTS: Review each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. Plywood is a most versatile building material.

T 2. Plywood consists of glued wood panels made from layers or piles of veneer.

T 3. The grades of plywood are designated as N, A, B, C, C Plugged, and D.

F 4. Grade N is a "Natural Finish" veneer, select, all softwood, and free of open defects.

T 5. Hardboard is classified commercially basic HS standard, tempered, and service.

T 6. Particle board is made into sheets of various sizes and shapes from wood particles.

T 7. All commercial species of woods are made into particle board.

T 8. Particle board is made from waste and residue particles from wood product mills.

T 9. In the mechanical process of paper-making, ground wood pulp and lignin are not removed or used.

T 10. Acetic Acid, acetone, charcoal, methanol, pitch and tar oil are hardwood distillation products.

T 11. Cedar oils, charcoal, creosote oils, dipentine lacquer solvent, pine oil, pine tar, rosin, tar oil solvents, and wood turpentine are softwood distillation products.

T 12. The following products are made in wood hydrolysis plants: sugars, glycerine, animal foods, carbonic acid, baking yeast, and acetic acid.

T 13. The following products are also made in wood hydrolysis plants: furfural, soil conditioner, oxalic acid, and resins.

INSTRUCTIONS TO STUDENTS: Complete each sentence below by filling in the correct word.

1. That part of a tree or log which has been prepared for veneer cutting is known as Pitch.

2. Pitch comes from stumpwood, longwood, crotch, and burl.

3. Rotary, Sawing, and Slicing are methods of cutting veneer.

INSTRUCTIONS TO STUDENTS: Read each question carefully; then place your response in the space provided.

1. Name the five types of sliced veneer.
   a. Flat
   b. Quarter
   c. Half-Round
   d. Back
   e. Rift

2. The figure patterns of veneer are determined by:
   a. Parts of tree
   b. Species of tree
   c. Methods of cutting
   d. Pattern of annual rings
   e. Color distribution
   f. Irregularity of grain structure

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS 01 Identify the following adhesives a. Resorcinoe b. White Glue c. Contact cement d. Hide glue e. Poly vinyle glue f. Casein g. epoxy	067 Identify common types of adhesives used in woodworking. SKILL: Observe Identify Demonstrate Sort	ELEMENTARY SCIENCE/PROCESS SKILLS Grades 4-6 1.01 Identify at least three properties common to the group when given a group of objects that are related 2.01 Identify at least two properties of a given group of objects 2.02 Sort a given group of objects according to their properties CHEMISTRY Grades 10-12 (Chemical Reactions) 1.01 Discover the net energy effects (exothermic/enthermic) of various reactions such as combustion, acid-base neutralization,, reaction of a metal with an acid, and decomposition through a series of suitable experiments 1.02 Demonstrate and describe the use of ionic and covalent bonding 2.01 Observe and explain the effects of temperature, surface area, catalyst and other factors affecting reaction rates when given a laboratory situation 3.01 Demonstrate and explain the effect that changes in temperature, concentration, and pressure have on the extent and direction of a chemical reaction

VOCATIONAL EDUCATION COURSE Wood Technology

067

INSTRUCTIONS TO STUDENTS: Read each statement carefully, then choose the best answer and mark the appropriate space on your answer sheet.

C 1. The adhesive that is used to apply decorative laminates and that cannot be moved once set in place
   a. resorcinol c. contact cement
   b. white glue d. animal hide glue

A 2. An adhesive that requires the mixing of the two parts, but yet will join to dissimilar materials for a strong bond
   a. epoxy c. animal hide glue
   b. casein d. polyvinyl glue

A 3. The adhesive that would be best selected and used in building a boat would be
   a. resorcinol c. casein glue
   b. white glue d. contact cement

D 4. Which of the following is excellent as a hobby glue with paper, leather, and small assemblies?
   a. contact cement c. hide glue
   b. resorcinol d. white glue

B 5. The glue that is most often used in joining oily woods such as lemon, yew, and teak is
   a. white glue c. resorcinol
   b. powdered casein d. epoxy

D 6. The average moisture content of interior woodwork is about
   a. 3% c. 6%
   b. 4% d. 8%

A 7. The drying or curing time on most white glues is
   a. 60 minutes c. 8 hours
   b. 45 minutes d. 24 hours

A 8. The bonding time on contact cement is
   a. immediate c. 30 minutes
   b. 15 minutes d. 1 hour

B 9. The adhesive that requires no special temperature in order to bond materials together
   a. resorcinol c. white glue
   b. resin glue d. epoxy

INSTRUCTIONS TO STUDENTS: Read each statement carefully. To the left of each statement write True if the statement is correct, or False if the statement is incorrect.

T 1. Wood is stronger with the grain than across it.

T 2. A starved joint is one that does not have enough glue.

T 3. Achieving a sturdy, durable bond is difficult when gluing wood end to end.

F 4. Contact cement allows movement of the two pieces of wood once they have been put together.

F 5. White liquid glue is highly water resistant.

T 6. The average moisture content of interior woodwork is about 8 percent.

T 7. Resorcinol glues form a very good bond and will stand the most extreme exposure to moisture and water.

F 8. Epoxy cement is used widely in furniture production gluing.

T 9. Powdered casein glue is very desirable to use in gluing very oily woods such as teak, lemon, and yew.

F 10. Some epoxy glues do not require mixing.

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
070 01 Identify reason for sanding. 02 Identify and give uses of flint abrasives. 03 Identify and give uses of garnet abrasives. 04 Identify and give uses of aluminum oxide abrasives. 05 Identify and give uses of silicone carbide abrasives. 06 Describe manufacturing abrasives.	070 Define and describe different abrasives. SKILL: Define Demonstrate Classify List	PHYSICS Grades 10-12 (Force and Motion) 3.01 Demonstrate that friction is the result of surface contact and attraction between two objects using various objects 3.02 Write several ways in which friction is useful, harmful, or wasteful CHEMISTRY Grades 10-12 (Matter--Composition and Changes) 1.01 Classify samples of matter as: (1) solid, liquid, gas; (2) metal, nonmetallic; (3) colored, colorless (4) shiny, dull. 2.01 Perform experiments to determine the formulas of compound in order to demonstrate the law of definite proportions (Atomic Theory) 4.01 Classify samples of matter as elements compounds, or mixtures 5.01 Write the symbols for a list of the most common elements 5.02 Name the elements represented in a list of symbols

BEST COPY AVAILABLE

SELECTED TEACHER HELPS

VOCATIONAL EDUCATION COURSE Wood Technology

070

INSTRUCTIONS TO STUDENTS: Read each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

F 1. Sandpaper is a good substitute for a plane.

F 2. Flint paper is harder and sharper than garnet paper.

T 3. The standard size for garnet paper is 9" x 11".

F 4. End grain is sanded in one direction.

F 5. When hand sanding, always sand across the grain.

T 6. Garnet sand paper is reddish brown in color.

T 7. Aluminum oxide is a man-made abrasive.

T 8. The letters A, B, C, D after grit sizes indicate the weight of the backing.

T 9. A No. 30 garnet paper is the same as 2 1/2 garnet paper.

T 10. Blending is an operation done with medium grits of sandpaper.

INSTRUCTIONS TO STUDENTS: Read carefully each statement; then choose the best answer and mark the appropriate space on your answer sheet.

B 1. The standard size for garnet sandpaper sheets is
a. 8" x 10"
b. 9" x 11"
c. 10" x 12"
d. 10" x 15"

D 2. Common backings for abrasives are varied. Choose the one below that is not used for common backing of abrasives.
a. paper
b. cloth
c. fiber
d. plastics

A 3. The man-made abrasive is
a. aluminum oxide
b. garnet
c. emery
d. flint

A 4. A very fine sandpaper is
a. 8/0
b. 4/0
c. 2/0
d. 0

B 5. Rolls of sandpaper are used on
a. disc sander
b. drum sander
c. belt sander
d. orbital sander

B 6. Sanding by hand should be done
a. across the grain
b. with the grain

C 7. The abrasive paper recognized by its reddish-brown color
a. emery
b. aluminum oxide
c. garnet
d. silicon carbide

A 8. An abrasive with a grey-brown color and very tough
a. aluminum
b. garnet
c. emery
d. silicon carbide

C 9. The abrasive which is white in color and resembles white sand
a. emery
b. garnet
c. flint
d. aluminum oxide

A 10. The most common machines used for sanding
a. belt-and-disc sanders
b. spindle sanders
c. drum sanders
d. rotary sanders

INSTRUCTIONS TO STUDENTS: On a project activity or on stock provided by your instructor select the proper abrasive and use the proper technique to rough sand and finish sand a:

1. Spindle
2. Leg & Rail
3. Table Surface

TEACHER VERIFICATION

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS*
INDICATORS		
075 01 Describe types and characteristics of each stain. 02 Describe methods used in applying stains. 03 Describe purposes and methods used in bleaching.	075 Define purpose for staining and bleaching. SKILL: Define Demonstrate Observe Describe	ELEMENTARY SCIENCE/MANIPULATIVE SKILLS Grades K-12 1.01 Demonstrate the proper use of a laboratory instrument appropriate for the student's grade level or course 2.01 Demonstrate proper care of laboratory instruments when using and storing them LIFE SCIENCE/PROCESS SKILLS Grades 7-9 13.01 Design and carry out a scientific investigation using a scientific problem and appropriate materials CHEMISTRY Grades 10-12 (Chemical Reactions) 1.01 Discover the net energy effects (exothermic/endothermic) of various reactions such as combustion, acid-base neutralization, reaction of a metal with an acid, and decomposition through a series of suitable experiments 1.02 Demonstrate and describe the use of ionic and covalent bonding 2.01 Observe and explain the effects of temperature, surface area, catalyst and other factors affecting reaction rates when given a laboratory situation 3.01 Demonstrate and explain the effect that changes in temperature, concentration, and pressure have on the extent and direction of a chemical reaction 4.01 Determine the oxidation numbers of the elements in simple compounds

BEST COPY AVAILABLE

VOCATIONAL EDUCATION COURSE Wood Technology

075

INSTRUCTIONS TO STUDENTS: Read each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. Oil stains do not bleed.

F 2. A feature of water stain is the clarity it gives to the wood grain.

F 3. Bleaching helps bring out the grain effect of the wood.

F 4. Bleach serves as a wood grain filler.

T 5. Oil stain is one of the easiest stains to apply.

T 6. Oxalic acid crystals mixed with water make a fairly effective bleaching solution.

T 7. Stain is placed on wood to bring out the grain and add color.

T 8. Rubber gloves and goggles should be worn when bleaching.

F 9. Cedar wood must be stained to produce color.

F 10. Sponging on water stain allows a uniform finish.

INSTRUCTIONS TO STUDENTS: Read the statements or questions carefully; then write your answers in the spaces provided to the left of each.

a 1. Which of the following is not one of the three recognized classifications of stains?

a. water b. turpentine c. oil

B 2. Which of the following woods can best be finished without applying stain?

a. poplar c. gum
b. maple d. ash

A 3. Which of the following woods would not require a bleach to attain a light finish?

a. maple c. walnut
b. red oak d. mahogany

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
076 01. Explain why fillers are needed in certain woods. 02. Explain how fillers should be utilized.	076 Describe purpose and methods of applying fillers. SKILL: Measure Explain Describe Demonstrate Determine	ELEMENTARY SCIENCE/MANIPULATIVE SKILLS Grades K-12 1.01 Demonstrate the proper use of a laboratory instrument appropriate for the student's grade level or course 2.01 Demonstrate proper care of laboratory instruments when using and storing them LIFE SCIENCE/PROCESS SKILLS Grades 7-9 5.01 Measure within a given degree of accuracty when given appropriate measurement instruments 6.01 Make predictions based on collected data 13.01 Design and carry out a scientific investigation using a scientific problem and appropriate materials CHEMISTRY Grades 10-12 (Chemical Reactions) 1.02 Demonstrate and describe the use of ionic and covalent bonding 2.01 Observe and explain the effects of temperature, surface area, catalysis and other factors affecting reactions rates when given a laboratory situation 3.01 Demonstrate and explain the effect that changes in temperature, concentration, and pressure have on the extent and direction of a chemical reaction

BEST COPY AVAILABLE

VOCATIONAL EDUCATION COURSE Wood Technology

076

INSTRUCTIONS TO STUDENTS: Read each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. Filler should remain on the surface of the wood until it becomes dull in appearance.

F 2. The basic purpose of filler is to color wood.

F 3. Filler should be applied with a sponge.

F 4. Maple wood must be filled.

F 5. The final rubbing of filler should remove all of it from the surface and pores of the wood.

T 6. Further finishing should not be attempted until the pores have dried at lease 24 hours.

INSTRUCTIONS TO STUDENTS: List four (4) woods on which fillers should be used. Place your answers in the spaces provided.

1. Walnut
2. Mahogany
3. Oak
4. Ash

TEST ITEM 076-00-13

INSTRUCTIONS TO THE STUDENTS: On a project activity or on samples provided by your instructor select and apply wood fillers to the surface of the wood.

TEACHER VERIFICATION

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR		VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS			
077	01 Identify different types of sealers. 02 Demonstrate applications of different sealers. 03 Explain the use of sealers.	077 Describe purpose and methods of applying sealers. SKILL: Identify Explain Demonstrate Describe Measure Determine	ELEMENTARY SCIENCE/MANIPULATIVE SKILLS Grades K-12 1.01 Demonstrate the proper use of a laboratory instrument appropriate for the student's grade level or course 2.01 Demonstrate proper care of laboratory instruments when using and storing them LIFE SCIENCE/PROCESS SKILLS Grades 7-9 5.01 Measure within a given degree of accuracy when given appropriate measurement instruments 6.01 Make predictions based on collected data 13.01 Design and carry out a scientific investigation using a scientific problem and appropriate materials CHEMISTRY Grades 10-12 (Chemical Reactions) 1.02 Demonstrate and describe the use of ionic and covalent bonding 2.01 Observe and explain the effects of temperature, surface area, catalysis and other factors affecting reaction rates when given a laboratory situation 3.01 Demonstrate and explain the effect that changes in temperature, concentration, and pressure have on the extent and direction of a chemical reaction

BEST COPY AVAILABLE

VOCATIONAL EDUCATION COURSE Wood Technology

077

INSTRUCTIONS TO STUDENTS: Describe the main purpose of a sealer coat. Place your response in the spaces provided.

1. The main purpose of a sealer coat is Prevent bleeding of the stains or fillers and seal pores and fibers, making a good base for subsequent finish coats. As the first coat of the finish, sealers prevent moisture absorption as well as absorption of other finish coats.

INSTRUCTIONS TO STUDENTS: Read each statement carefully. To the left of each statement write True if the statement is correct; or False if the statement is incorrect.

T 1. A special sealer is needed for a lacquer finish.

T 2. A sealer is used mainly to prevent color from bleeding into the finish.

T 3. Shellac in the form of a wash coat may be used as a sealer.

F 4. There are synthetic sealer finishes that can be used for the entire finishing system.

INSTRUCTIONS TO STUDENTS: On material provided by your instructor, select the appropriate tools and materials and seal the following woods:

1. Mahogany

TEACHER VERIFICATION

2. Maple

3. Pine

BEST COPY AVAILABLE

BEST COPY AVAILABLE

CURRICULUM ALIGNMENT CHART

VOCATIONAL EDUCATION COURSE Wood Technology

VOCATIONAL EDUCATION PERFORMANCE INDICATOR	VOCATIONAL EDUCATIONAL COMPETENCY SCIENCE SKILL/CONCEPT	RELEVANT SCIENCE COMPETENCY INDICATORS
INDICATORS		
78		
01 Demonstrate the effect of shading, glazing, distressing on 3 wood samples of the same type wood.	078 Describe the purpose and methods of shading, glazing, and distressing.	ELEMENTARY SCIENCE/MANIPULATIVE SKILLS
02 Describe the glazing process.	SKILL: Demonstrate Describe Measure Determine Predict	Grades K-12 1.01 Demonstrate the proper use of a laboratory instrument appropriate for the student's grade level or course 2.01 Demonstrate proper care of laboratory instruments when using and storing them
		LIFE SCIENCE/PROCESS SKILLS Grades 7-9 5.01 Measure within a given degree of accuracy when given appropriate measurement instruments 6.01 Make predictions based on collected data 13.01 Design and carry out a scientific investigation using a scientific problem and appropriate materials
		CHEMISTRY Grades 10-12 (Chemical Reactions) 1.02 Demonstrate and describe the use of ionic and covalent bonding 2.01 Observe and explain the effects of temperature, surface area, catalysis and other factors affecting reaction rates when given a laboratory situation 3.01 Demonstrate and explain the effect that changes in temperature, concentration, and pressure have on the extent and direction of a chemical reaction

VOCATIONAL EDUCATION COURSE Wood Technology

SELECTED TEACHER HELPS

INSTRUCTIONS TO STUDENTS: Read each statement carefully. To the left of each statement write true if the statement is correct; or false if the statement is incorrect.

? 1. Distressing is used to add interest to the finish on a furniture piece.

? 2. Distressing is used to give a new piece of furniture an antique appearance.

? 3. Distressing is used to imitate the appearance of age and wear.

? 4. Glazing is done to give a furniture piece a highlighted appearance.

? 5. wood imitation worm holes to give the impression of antique furniture can be made by spattering.

? 6. Spattering is a method of adding a speckled texture to the surface.

INSTRUCTIONS TO STUDENTS: List the steps in the glazing process. Use the spaces provided for your answers.

1. Apply the undercoat of either flat paint or enamel of the selected color. Two coats are needed for new wood. Be sure there are no drips or sags. Allow 24 hours for drying.

2. Mix the glaze thoroughly and tint to desired color. Apply glaze in sections and then wipe it off.

3. Use a chamois cloth to blend unwiped areas into the wiped ones, wiping long, straight strokes with the grain.

4. Additional highlighting can be done with fine sandpaper. Steel wool can also be used on rounded or carved surfaces. Apply protective top coat.

INSTRUCTIONS TO STUDENTS: On wood provided by your instructor or on a project activity, perform properly the following finishing techniques.

1. Glazing TEACHER VERIFICATION
2. Spattering
3. Distressing

BEST COPY AVAILABLE